GROUP FLOW AND GROUP GENIUS

by Keith Sawyer

Keith Sawyer views the spontaneous collaboration of group creativity and improvisation actions as group flow, which organizations can use to function at optimum levels. Sawyer establishes ideal conditions for group flow: group goals, close listening, complete concentration, being in control, blending egos, equal participation, knowing team mates, good communication, and being progress-oriented. Collaboration is an essential ingredient of group flow and is vital to the Montessori classroom.

Basketball is religion in Indiana, and one of its mega churches is Bloomington, home of the Big-Ten Indiana University Hoosiers, where larger-than-life coach Bobby Knight won three national championships between 1971 and 2000. But the Indiana tradition isn't just about famous coaches and national championships. In the legendary Old Fieldhouse on 7th Street, there are 16 indoor basketball courts in one cavernous space. The team doesn't use these courts anymore. Now, the Old Fieldhouse is called the HPER student rec center and it's one of the best places in the country for pickup basketball.

No coaches, no referees, and no championship: The players create their own teams, police their own behavior, and work out rules for who gets to play and when. Pickup basketball brings together people who would probably never meet off the court, like at a

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YMCA in Waukegan, Wisconsin, when two of the regular players were Alan, a young black player just out of high school, and Pip, a middle-aged white judge. It turned out that Alan was a member of a gang. The others didn't know this until one of Alan's fellow gang members came up for trial in Pip's courtroom, and Alan was at the trial every day along with the rest of the gang. Pip said, "I looked up one day and he was in the courtroom and Christ! It scared the hell out of me because I had been playing ball with him for awhile and I gave this guy like twelve years." But they continued to play together, along with Sam, a thirty-year-old black man who worked with at-risk youth and with the police. Games at this YMCA brought together lawyers, police officers, a liquor store owner, a minister, factory workers, a flight attendant, and ex-cons.

The same thing happens every day and every week all over the country, from Lincoln Park, in Santa Monica, California, to the legendary West Fourth Street basketball court in New York's Greenwich Village. Just like Bloomington and Waukegan, pickup ball brings together executives, professors, workers, and streetwise teenagers.



3ergamo Montessori School © Sara Guren

Why do these amateurs spend so much time and effort on basketball? There's no money in it, no admiring fans. When you win a pickup game, it earns you the right to play in the next game—nothing more. Many of the middle-aged men and women who play pickup basketball have had repeated knee injuries; there's a real physical cost to the game.

They play because when you take away the referees, the clock, the rulebook, and the coaches, you're left with the pure, improvised essence of basketball. Basketball is one of the most improvised and team-oriented of all sports, the sports equivalent of group genius. In pickup games, everything that slows down the professional game has been taken away—there are no free throws in streetball, for example. There's nothing standing between the players and the deep feeling of peak experience that emerges when the team is in sync. Bill Russell, the famous center for the Boston Celtics, spoke frequently about this almost spiritual experience:

Every so often a Celtic game would heat up so that it became more than a physical or even mental game, and would be magical. That feeling is difficult to describe, and I certainly never talked about it when I was playing. When it happened I could feel my play rise to a new level.... The game would just take off, and there'd be a natural ebb and flow that reminded you of how rhythmic and musical basketball is supposed to be....It was almost as if we were playing in slow motion.

Teams can win only by improvising and collaborating, changing constantly in response to the adjustments their opponents are making. One pickup player told this story of improvised innovation:

I was guarding Paul and sagging off him to help my teammates play defense. Our opponents collectively realized that I was leaving Paul to double-team whoever had the ball, so our foes began passing the ball to Paul. He caught the ball and scored a couple of shots. I adjusted by sticking close to Paul, but by then his teammates had realized that he was "hot," so they began to pick and pass. They set picks by getting in my way, freeing Paul. Then, they would pass him the ball and he would score again. My teammates grasped what Paul and his teammates were doing to me, so they began to help me guard Paul.

What's the magical chemistry that happens when a team improvises in response to every move by their opponents, without saying a word, and wins the game? The answer can't be found in the skill or creativity of any one player; the entire group makes it happen.

PEAK EXPERIENCE

I began to gain insight into this magical chemistry when I worked on my PhD at the University of Chicago with Mihaly Csikszentmihalyi, the famed psychologist who coined the term "flow" to describe a particular state of heightened consciousness. He discovered that extremely creative people are at their peak when they experience "a unified flowing from one moment to the next, in which we feel in control of our actions, and in which there is little distinction between self and environment: between stimulus and response; or between past, present, and future." Drawing on research with mountain climbers, club dancers, artists, and scientists, Csikszentmihalyi found that people are more likely to get into flow when their environment has four important characteristics. First and most important, they're doing something where their skills match the challenge of the task. If the challenge is too great for their skills, they get frustrated; but if the task isn't challenging enough, they simply get bored. Second, flow occurs when the goal is clear; and third, when there's constant and immediate feedback about how close you are to achieving that goal. Fourth, flow occurs when you're free to fully concentrate on the task. When you're lucky enough to work with these four features, you often enter the flow state—where people from all professions describe feeling a sense of competence and control, a loss of selfconsciousness, and they get so absorbed in the task that they lose track of time.

Csikszentmihalyi has gathered years of data documenting that flow is the most essential ingredient in creativity. Creative people, in all professions and all walks of life, have their most significant insights while in a flow state. Even though most people say that they enjoy time at home more than they enjoy working, Csikszentmihalyi's studies show that people are more likely to be in flow at work than when they're relaxing at home. Many other psychologists

have confirmed the link between flow and creativity, especially at work. For example, Teresa Amabile of Harvard University studied over 200 professionals at seven companies, and found that creative insights were associated with the flow state. Even the day after being in a flow state, people were more creative.

Flow researchers have spent a lot of time studying the individual creator, but people don't play pickup ball because of individual flow—dribbling the basketball or honing their shots—after all, you could do those things by yourself. They play because they love the high that comes from group genius. In fact, Csikszentmihalyi found that the most common place people experienced flow was in conversation with others. At work, conversation with colleagues is one of the most flow-inducing activities; managers, in particular, are most likely to be in flow when they're engaged in conversation.

Conversation leads to flow, and flow leads to creativity. What happens, I wondered, when flow emerges in a group activity? Does the group itself enter a flow state? Might there be something like "group flow"? And what happens when everything comes together to help a group be in flow? The answers tell us how to foster group genius.

THE TEN CONDITIONS FOR GROUP FLOW

I began to explore these question by studying jazz ensembles. I was a jazz pianist through high school and college, and I've often sat in with professional groups. Basing my research on Csikszentmihalyi's seminal work, I discovered that, sure enough, improvising groups attain a collective state of mind that I call *group flow*. Group flow is a peak experience, a group performing at its top level of ability. In a study of over 300 professionals at three different companies—a strategy consulting firm, a government agency, and a petrochemical company—Rob Cross and Andrew Parker discovered that the people who participated in group flow were the highest performers. In situations of rapid change, it's more important than ever for a group to be able to merge action and awareness, to adjust immediately by improvising. In group flow, activity becomes spontaneous, and the group acts without thinking about it first.

To foster improvised innovation, you first have to create the conditions for group flow. Genius groups tend to emerge in contexts where ten key flow-enabling conditions are found.

1. The group's goal

Jazz and improv theater are relatively unstructured; the ensemble has no explicit goal. But the groups that we participate in during the work day—task forces, project groups, and committees—usually have a specific goal in mind. How can you apply the lessons from unstructured groups to more task-oriented ones? Jazz and improv theater groups are at one extreme of the spectrum of group types—the no-goal extreme. A basketball team, in contrast, has a very clear goal: to defeat the opponent. If group flow can occur in no-goal jazz groups and in focused basketball teams, what's the connection between goals and performance?

Business teams are expected to solve specific problems. They know that by the end of the meeting they have to come up with a resolution of the budget shortfall, or find a way to fix a software bug that threatens to spiral out of control. If the goal is well-understood and can be explicitly stated, it's a *problem-solving* creative task. The group members then are more likely to be in flow while working toward such a goal if they've worked together before, if they share a lot of the same knowledge and assumptions, and when they have a compelling vision and a shared mission. One study of over 500 professionals and managers in 30 companies found that the single biggest barrier to effective team performance was unclear objectives.

Jazz and improv groups are at the other extreme. The only goal is intrinsic to the performance itself—to perform well and to entertain the audience. This is *problem-finding creativity* because the group has to "find" and define the problem as they're solving it. At first, this might seem very different from everyday business contexts. But many of the most radical innovations occur when the question or goal isn't known in advance.

The story of how 3M created the Post-It note is legendary in the annals of innovation: research scientist Spence Silver was trying to improve the adhesive that was used in tape, and in 1968 he developed an adhesive that bonded very weakly and thus failed to achieve

that goal. But Silver noticed something unusual about the adhesive—it formed itself into tiny balls that were just about the size of paper fiber. For five years, Silver told everyone who would listen about this new adhesive and tried to think of a way to use it in a product. One day, Art Fry, who worked in new product development, attended a seminar where Silver described his adhesive. Fry sang in his church choir,

In group flow, the group is focused on the natural progress emerging from their work, not on meeting a deadline set by management. Flow is more likely to occur when attention is centered on the task, and other things are put out of mind. Small annoyances aren't noticed, and the external rewards that may or may not await at the end of the task are forgotten.

and he had repeatedly been frustrated when paper bookmarks fell out of his hymnal. One Sunday morning, soon after the seminar, he realized that Silver's adhesive could be used to make a bookmark that wouldn't fall out, and the now-famous product was born. This was just the opposite of problem-solving creativity; the secret was to come up with the right problem.

The key to improvised innovation is managing a paradox: establishing a goal that provides focus for the team—just enough focus so that team members can tell when they get closer to a solution—but one that's open-ended enough for problem-finding creativity to emerge, like when the Gore engineer decided to pose himself the problem of creating a new guitar string. When auto maker BMW decides to explore a new product possibility, they outline a rough goal and then put several teams in competition, from studios in the Munich headquarters to DesignWorks in Los Angeles. Competition, mixed with loosely specified goals, can be just the right recipe for group genius.

2. Close listening

Listen to Jeffrey Sweet describing a great Chicago improv theater show:

Tonight, things are going well. Tonight, watching them improvise is like watching an expert surfer. The surfer's incredible balance keeping him constantly poised on the crest

of a wave; the cast, working from instinct rooted in hours of workshops and past improv sets, riding the crest of the moment. When they are on top, it is a sight to see. There is a thrill in watching them, a thrill born of the precariousness of their position and the ever-present threat that a misjudgment may send them hurtling into a wipeout.

Actors and musicians both talk about group flow using metaphors like riding a wave, gliding across a ballroom with a dance partner, or lovemaking. Jazz trombonist Curtis Fuller said "when that's really happening in a band, the cohesiveness is unbelievable. Those are the special, cherished moments. When those special moments occur, to me, it's like ecstasy. It's like a beautiful thing. It's like when things blossom." Each performer is open and listening to the others, even while they're contributing to the performance themselves.

Group flow is more likely to emerge when everyone is fully engaged—what improvisers call "deep listening," in which you don't plan ahead what you're going to say, but your statements are genuinely unplanned responses to what you hear. Innovation is blocked when one or more participants already has a preconceived idea of how to get to the goal; improvisers frown on this practice, pejoratively calling it "writing the script in your head."

One consultant described a manager that fostered group flow: "She came into the meeting, and I know she had a thousand other things going on, but she was immediately there and with us. She was listening to what we had done and why, and throughout the interaction was asking good questions." People that listen closely are energizing, and people who energize others are proven to be higher performers.

3. Complete concentration

In basketball, complete concentration is required because of the fast pace of the game and because everyone's constantly moving around you, and you need to remain constantly aware of your teammates and opponents. One of the basketball players Csikszentmihalyi interviewed said, "If you step back and think about why you are so hot all of a sudden, you get creamed." Time becomes warped, minutes seem like hours, and the basketball can appear to move in slow motion.

In musical ensembles, group flow is challenging to maintain; the musicians are playing non-stop, yet while they're playing they have to listen to their band members, hearing and immediately responding to what they're playing. As one musician told me, "You have to be able to divide your senses...so you still have that one thought running through your head of saying something, playing something, at the same time you've got to be listening to what the drummer is doing." You can't relax your attention or else you'll fall behind.

You might think that a high-pressure deadline might be one of those challenges that increase flow for highly skilled people. But the research shows just the opposite: group flow tends to fade in the presence of strict, high-pressure deadlines. Teresa Amabile of Harvard University has found that creativity is associated with low-pressure work environments—even though many people think they're more creative when they work under high pressure. In group flow, the group is focused on the natural progress emerging from their work, not on meeting a deadline set by management. Flow is more likely to occur when attention is centered on the task, and other things are put out of mind. Small annoyances aren't noticed, and the external rewards that may or may not await at the end of the task are forgotten. A strict deadline is certainly a challenge, but not the right kind of challenge; the challenges that inspire flow are those that are intrinsic to the task itself.

Group flow is more likely when a group can draw a boundary, however temporary or virtual, between the group's activity and everything else. Companies should identify a special location for group flow, or engage in a brief "rehearsal" or "warmup" period that demarcates the shift to performance. Many famous great groups have a strong feeling of group identity, of standing apart from the rest of the organization. IDEO's way of fostering group identity is practically a cliché today: almost every group orders special baseball hats or polo shirts, embroidered with a clever name for their team.

The downside of complete concentration is that other important priorities can become neglected. For example, Anne Miner and her colleagues watched as the Seefoods company put on hold the development of a salad line to focus all energies on their sandwich line—even though market research had already shown that the salad line would be successful. FastTrack scientist specials often were perceived by others as distracting the engineers from the original product plan, drawing resources from well-planned strategies with proven market potential. In general, marketing and engineering saw

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the benefits of improvisation, and financial and manufacturing saw it as a source of potential inefficiency and error.

4. Being in control

People get into flow when they're in control of their actions and of their environment. This implies that groups won't be in flow unless they're granted autonomy by senior management. Michael Crooke, the CEO of Patagonia, the outdoor clothing maker, read Csikszentmihalyi's influential book *Flow* back in 1995 and has been building a flow-oriented environment at Patagonia ever since, granting autonomy to his staff. Patagonia is located near the Pacific Ocean in Ventura, California; its entrance hallway is lined with employee surfboards. Founder Yves Chouinard, a mountain climber like Csikszentmihalyi, instituted the policy "Let My People Go Surfing"—meaning that anytime the surf comes up, any employee can go surfing. Crooke is building flow into Patagonia's teams; he says that flow "is at the center of everything I'm doing," and compares the peak performance of Patagonia's teams to his own experiences at the age of 19, when he was part of a Navy SEAL team.

Group flow increases when people feel autonomy, competence, and relatedness. Many studies of teams have found that team autonomy is the top predictor of team performance. But in group flow, unlike solo flow, control results in a paradox—because each participant must feel in control, while at the same time remaining

flexible, listening closely, and always being willing to defer to the emergent flow of the group. The most innovative teams are the ones that can manage that paradox.

5. Blending egos

Jazz musicians know that they need to control their egos; every jazz player can tell a story about a technically gifted young instrumentalist who was nonetheless a horrible jazz musician. What they're lacking is the ability to submerge their ego to the group mind, to balance their own voice with deep listening.

Group flow is the magical moment when it all comes together, when the group is in sync and the performers seem to be thinking with one mind. As David Byrne of the Talking Heads said, "you kind of subsume yourself and become part of the community of musicians." This is when the audience gets the impression that they're reading from the same script—even though there's no script. Each performer is managing the paradoxes of improvisation, balancing deep listening with creative contribution.

In group flow, each person's idea builds on the ones that their colleagues just contributed. One executive said about a colleague who often participated in groups in flow: "He is animated and engaged with you. He is also listening and reacting to what you are saying with undivided attention." Small ideas build together and an innovation emerges, as the improvisation seems guided by an invisible hand toward a climactic peak.

6. Equal participation

Group flow is more likely to occur when all participants play an equal role in the collective creation of the final performance. Group flow is blocked if any one's skill level is below the rest of the group; all of the members must have comparable skill levels. This is why professional athletes don't enjoy playing with amateurs; group flow can't emerge, because the professionals will be bored and the amateurs will be frustrated.

It's also blocked when one person dominates, is arrogant, or doesn't think they have anything to learn in the conversation. One

software developer described how his manager destroyed group flow: "We had been working like crazy on this project when he swooped in and just started telling us what we should do. He didn't take the time to try to understand what we were telling him...That really crashed...the ideas that could have been developed in that session."

A recent social network analysis of a group of 101 engineers within a petrochemical organization found that supervisors generally sapped flow; but a similar analysis of a government agency that reorganized after the September 11, 2001 terrorist attacks found that managers fostered group flow. Managers can participate in groups in flow, but they have to participate in the same way as everyone else—engaging in close listening, granting autonomy and authority to the group's emergent decision processes.

7. Familiarity

One pickup player told sociologist Jason Jimerson that "you gotta know how to play with them"—group flow is more likely to happen when you know the playing styles of your teammates and opponents. By studying many different work teams, psychologists have found that familiarity increases productivity and decision-making effectiveness. When members of a group have been together awhile,



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Coffeehouse, AMI Montessori Orientation to Adolescent Studies, 2010

they share a common language and a common set of unspoken understandings. Psychologists call these shared understandings *tacit knowledge*—and because it's unspoken, people often don't even realize what it is that makes them able to communicate effectively.

In improv, group flow only happens when all the players have mastered a body of tacit knowledge. Improv actors are taught a set of guiding principles that help make it work, rules like "Don't deny" and "Show, don't tell." Jazz musicians have to learn the basics of harmony, melody, and the standard song forms such as 12-bar blues and 16-bar Broadway musical choruses. And after they've learned that, then they have to master a dizzying array of conventions, customs, and unwritten rules—like the custom that each soloist should play just about the same amount of time as the soloist before him.

Improv groups have three kinds of shared knowledge that can contribute to group flow: An overall flow or outline of the performance that all participants know in advance (although the exact length of each segment, and the timing of transitions, must still be improvised); a shared repertory of riffs, with a knowledge of how they typically sequence in order; and common agreement on the conventions—the set of tacit practices governing interaction in the group.

Group flow requires that the members share an understanding of the group's goals (because clear goals are so important to flow); they need to share enough communicational style to mutually respond to each other (because immediate feedback is critical to flow). But if group members are too similar, flow becomes less likely–because the group interaction is no longer challenging. If everyone is identical and shares the same habits of communicating, group members don't need to pay close attention to what the others are doing, and they don't have to continually update their understanding of what is going on—and nothing new and unexpected will ever emerge.

After 2 or 3 years, groups can get too familiar and their effectiveness starts to decrease. The group members fall into a more routine pattern of interaction. Close listening becomes less necessary because everything is shared; there are no surprises left. Group flow fades away—and usually the group breaks up, as its members

notice the lack of flow and leave to find new challenges elsewhere. Chicago improv ensembles rarely continue performing together for more than three months, and many shows last for much less than that before the members move on—forming new combinations with actors likewise freed up from other mature groups. Organizations should have mechanisms in place to smooth these natural transitions in the lifespan of creative groups.

Familiarity helps more for problem-solving creativity. If there's a specific goal and the participants don't share enough common knowledge, then it'll be very difficult for the group to accomplish its goal. Higher group cohesiveness has repeatedly been found to correlate with high performance, especially for larger groups (more than 7 people).

But if a group needs to find and define a new problem, then too much shared information becomes a problem. Problem-finding groups are more likely to be in group flow if there's more diversity; problem-solving groups are often more effective when more tacit knowledge is shared.

8. Communication

After Stefan Falk, the vice president of strategic business innovation at Ericsson, read *Flow* in 2002, he redesigned the company to make flow the core of its philosophy. Every manager was required to meet with each employee six times a year in elaborate feedback sessions lasting over an hour. When Falk moved to Green Cargo, a large Scandinavian transport company, he went even further—requiring monthly meetings between managers and employees, intensive sessions that are something like executive coaching. In 2004, Green Cargo turned a profit for the first time in its 120-year government-owned history, and the CEO gives much of the credit to Falk's flow strategies.

Group flow requires constant communication. Everyone hates to go to useless meetings; but the kind of communication that leads to group flow often doesn't happen in the conference room. Instead, it's more likely to happen in free-wheeling, spontaneous conversations in the hallway, or in social settings after work or at lunch.

9. Keeping it moving forward

In the last chapter, we learned about a FastTrack bug fix that, thanks to group genius, was reframed as a new "speedy reporting feature." Fixing the bug was important, but an even more significant innovation resulted because the team members kept moving the conversation forward.

Another example of group flow at FastTrack was when a team was trying to figure out what to do about an unreliable part. It performed very well in some products but not so great in others. One engineer explained that nothing could be done, and that the performance variability was the result of unchangeable properties of the part. The first idea would be to simply ignore the variability because even the poor performing products met the minimum acceptable specifications. But other members of the team began to wonder if customers who just happened to receive a "hot" item first, but then later were delivered an average or poor item, would feel ripped off. Suggestions then came from everyone: test each part before making the product; ask the vendor to test the parts in exchange for a small fee. All of those ideas would be expensive.

Then, one engineer said "If you see a hot one, let me know. I can phone the customer and tell them we have this hot item and do they want it. Then they think, 'Oh yeah, FastTrack's really good guys. They look out for me. Rather than correct the variability, they ended up with an emergent, improvised solution—to use the variability to build customer relationships. Group flow flourishes when people follow the first rule of improvisational acting: "Yes, and..." Listen closely to what's being said; accept it fully; and then extend and build on it.

10. The potential for failure

Jazz ensembles rarely experience flow during rehearsal; it seems to require an audience, and the accompanying risk of real, meaningful failure. Jazz musicians and improv theater ensembles alike never know how successful a performance will be. Pianist Franklin Gordon said, "It doesn't happen every single night...but at some point when the band is playing and everyone gets locked in together, it's special for the musicians and for the aware, consci-

entious listener. These are the magical moments, the best moments in jazz." Professional actors learn not to ignore the feeling of stage fright, but to harness the feeling—using it as a powerful force to push them toward the flow experience.

Many groups require a preliminary warm-up period to get into group flow. In Chicago blues bands, the ensemble plays the first set while the headlining lead singer, guitarist, or harmonica player remains backstage. This allows the ensemble to get in sync, so that when the band leader comes on stage, he'll have a fully warmed up band. As jazz trumpeter Jimmy Robinson said about the rhythm section, "you just let them play to get the kinks out. After they'd got the feeling for one another and got themselves together, then the horns joined them." Similarly, improv theater groups typically perform group exercises in a separate room offstage while the audience members arrive and take their seats. Some of these exercises are high energy, and audience members occasionally hear strange shouts and pounding sounds filter into the theater as the ensemble works toward a state of group flow.

Of course, there's rarely time for "rehearsal" in the business world. The problem is that most businesses are designed to minimize risk, and most of them punish failure. But research shows us over and over again that the twin sibling of innovation is frequent failure. There's no creativity without failure, and there's no group flow without the risk of failure. These two common research findings go hand in hand, because group flow is often what produces the most significant innovations.

There's a way that you can rehearse and get better, even in the business world. Psychological studies of expertise have shown that in every sphere of life, from arts and science to business, the highest performers are the ones who engage in deliberate practice—as they're doing a task, they're constantly thinking about how they could be doing it better, and looking for lessons that they can use next time. The key is to treat every activity as an opportunity to rehearse for the next time. The best jazz bands engage in deliberate practice right in front of the paying audience.

Group flow happens when many tensions are in perfect balance: the tension between convention and novelty, between structure and improvisation, between the critical, analytic mind and the freewheeling, outside-the-box mind, between listening to the rest of the group and speaking out with your own individual voice. The paradox of improvisation is that it can only happen when there are rules and the players share tacit understandings; but with too many rules or too much cohesion, the potential for innovation is lost. The key question facing groups that have to innovate is finding just the right amount of structure to support improvisation, but not so much structure that it smothers creativity. Jazz and improv theater have important messages for all groups, because they're unique in how successfully they balance all of these tensions. These ensemble art forms embrace the tensions that drive group genius.

LIVE FROM NEW YORK

In 1949, the comedian Sid Caesar brought together a legendary group of comedy writers and created one of the biggest television hits of the 1950s, *Your Show of Shows*, 90 minutes broadcast live from New York every Saturday night. During the nine years the show was on the air, Caesar's writers included Mel Brooks, Carl Reiner, M*A*S*H producer Larry Gelbart, Neil Simon, and Woody Allen. This was the first comedy show to move beyond the cream pie and seltzer bottle style of slapstick humor; his team developed challenging material that didn't insult their audience. Mel Brooks compared the group to a World Series baseball team, and many experts believe that this was the greatest writing staff in the history of television.

The writers developed the show in a small suite of rooms on the sixth floor of 130 West 56th Street in Manhattan. Caesar created an improvisational environment, focused on the goal of generating the funniest show possible. The team would bounce ideas constantly, and keep it moving forward. As Mel Brooks remembered it, "Jokes would be changed 50 times. We'd take an eight-minute sketch and rewrite it in eight minutes." Their writing followed a problem-finding style, where they constantly rewrote the same scene until something really great emerged from the group's genius. The writers felt like they belonged to something greater than themselves—a classic result of group flow.

It's hard to find this kind of experience in a large organization, which tends to reward closing up communication, narrowing the channels, and minimizing risk. That's why people who seek out group flow avoid big organizations and join small startups or work for themselves. Serial entrepreneurs keep starting new businesses as much for the flow experience as for additional success. In the global war for talent, organizations that need to innovate can't afford to let good improvisers go; they need to create the conditions for group flow, and allow group genius to thrive.

Notes

The Waukegan YMCA. The story about Alan and Pip is told by Jason Jimerson in:

Jimerson, J. B. (1999). *Interpersonal flow in pickup basketball* (Unpublished manuscript). Bloomington, IN: Indiana University.

Lincoln Park in Santa Monica. This story is told by Eisenberg in:

Eisenberg, E. M. (1990). Jamming: Transcendence through organizing. *Communication Research*, 17(2), 139-164.

West Fourth Street. Two excellent sources are:

Martindale Jr., W. (2006). *Inside the cage : A season at West 4th Street's legendary tournament*. New York: Simon Spotlight Entertainment.

Ballard, C. (2004). *Hoops nation: A guide to America's best pickup basketball*. Lincoln: University of Nebraska Press.

Pickup Basketball. Two good books about New York City pickup basketball are:

Axthelm, P. (1999). *The city game: Basketball from the garden to the playgrounds*. Lincoln, NE: University of Nebraska Press.

Telander, R. (1995). *Heaven is a playground*. Lincoln, NE: University of Nebraska Press.

This excellent anthology has wonderful articles about pickup basketball:

Rudman, D. (1980). *Take it to the hoop: A basketball anthology*. Richmond, CA: North Atlantic Books.

Bill Russell. The block quotation is from pages 155-157 of:

Russell, B., & Branch, T. (1979). Second wind: The memoirs of an opinionated man. New York: Random House.

"I was guarding Paul..." Jimerson tells this story on page 14 of:

Jimerson, J. B. (1999). *Interpersonal flow in pickup basketball* (Unpublished manuscript). Bloomington, IN: Indiana University.

Mihaly Csikszentmihalyi and flow:

Csikszentmihalyi, M. (1975). Beyond boredom and anxiety. San Francisco: Jossey-Bass. The quotation "a unified flowing..." is on page 43.

Flow and work. See two books:

Csikszentmihalyi, M. (2003). Good business: Leadership, flow, and the making of meaning. New York: Viking.

Csikszentmihalyi, M. (1990). *Flow: The psychology of optimal experience*. New York: HarperCollins.

Teresa Amabile found that flow fosters insight:

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly*, 50, 367-403.

Note that this is in contrast to the popular myth that mentally ill, depressed individuals are more likely to be creative.

Flow happens in conversation.

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Patagonia and Michael Crooke.

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Autonomy contributes to group flow.

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Team autonomy predicts performance. One of many studies with this finding is:

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Thompson, R. F. (1988, April 21). David Byrne: The Rolling Stone Interview. *Rolling Stone*, 42-52, 116.

"He is animated and engaged with you" quotation. Page 54 of:

Cross, R., Baker, W., & Parker, A. (2003). What creates energy in organizations? *MIT Sloan Management Review*, 44(4), 51-56.

"We had been working like crazy on this project" quotation. Page 11 of:

Cross, R., & Parker, A. (2004). Charged up: Creating energy in organizations. *Journal of Organizational Excellence*, 3-14.

Social network analyses, managers, and flow. Both the petrochemical organization and the government agency are described in:

Cross, R., & Parker, A. (2004). Charged up: Creating energy in organizations. *Journal of Organizational Excellence*, 3-14.

"You gotta know how to play with them." Page 24 of:

Jimerson, J. B. (1999). *Interpersonal flow in pickup basketball* (Unpublished manuscript). Bloomington, IN: Indiana University.

Shared understandings and team effectiveness. In the social psychological literature this is sometimes referred to as team coherence; see page 347 of:

Kozlowski, S. W. J., & Bell, B. S. (2003). Work groups and teams in organizations. In W. C. Borman, D. R. Ilgen & R. J. Klimoski (Eds.), Handbook of psychology, Volume 12: Industrial and organizational psychology (pp. 333-375). New York: Wiley.

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